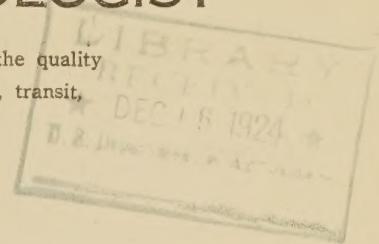


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THE EXTENSION PATHOLOGIST

"To promote economic crop production, improve the quality of the products, and prevent wastage in storage, transit, and at the market."



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THE OFFICE OF COOPERATIVE EXTENSION WORK

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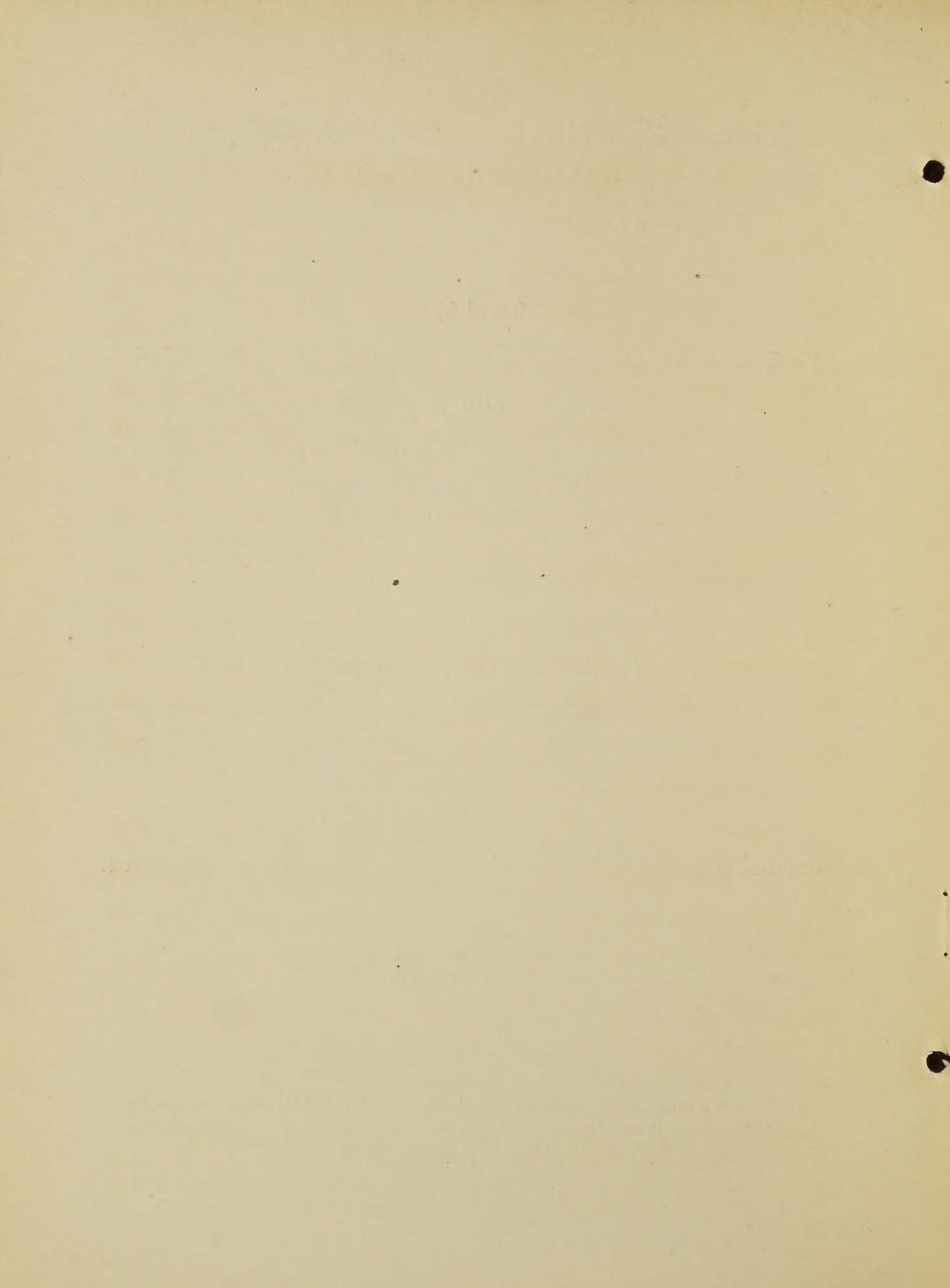
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THE EXTENSION PATHOLOGIST

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BOYS' AND GIRLS' CLUB WORK AND THE PROGRAM FOR PLANT-DISEASE CONTROL

Both station workers and extension pathologists frequently request information concerning the place that plant pathology should hold in boys' and girls' club work. Thinking it would be interesting to hear from some of those who have been close to work of this sort, several men were approached recently for information relative to activities they are carrying on in connection with the potato project. These men have very kindly sent in brief accounts of this phase of the work, and their reports will follow. Before getting to specific instances of State work, however, we have a few words from Mr. R. A. Turner, who recently came to the department from Michigan.--F.C.M.

'BOYS' AND GIRLS' 4-H CLUB WORK'

By R. A. Turner,
Field Agent, Office of Cooperative Extension Work,
United States Department of Agriculture

The statement, "Demonstrations Convince," has a particular application to extension work. Not only is this true with adults, but it is likewise true when applied to boys' and girls' 4-H Club work. That the State and county agents, together with the extension specialists, have become aware of this truism is shown by the increased attention given to demonstrations by club leaders.

Most extension workers welcome every available opportunity to bring their work to the attention of people in the counties and thus enlarge the scope of extension activities. It should be of great interest to the extension pathologist to know that over 11,400 farm boys were enrolled in potato-club work last year, for here were 11,400 opportunities to increase the spread of knowledge concerning potato diseases.

The older club boys have a wholesome mental attitude regarding extension work and are, therefore, in a position to give whole-hearted co-operation to the extension pathologist.

It is logical that the extension pathologist is more interested in crop-club projects than in the other club enterprises. Therefore, let us turn our attention to those activities. What are some of the methods employed through 4-H Club work to increase the spread of good practices pertaining to farm crops?

Instances are cited to show that extension methods were applied through these clubs. In Lapeer County, Mich., a potato club of seven boys stated that the goal of their club was "To introduce certified seed potatoes and demonstrate their adaptability to Lapeer County conditions."

These seven boys produced 590 bushels of potatoes from their certified seed. In a report of their work the local club leader states, "All club members and several farmers plan to purchase certified seed for 1924."

The above results were made possible through the interest which the potato extension specialist manifested in club work. He sent his inspectors with the county extension agent to the club members' plots; he, himself, worked with this and other clubs in extending to farmers the practice of using certified seed potatoes.

The crops specialist in Indiana reports 55 potato clubs organized in 23 counties in his State. Through his efforts and the efforts of others, two carloads of certified seed potatoes were brought into Indiana from Wisconsin and Michigan and distributed to potato-club members.

Appreciation of boys' and girls' club work as a means of demonstrating good practices is not limited to potato specialists alone. A corn specialist in a mid-western State has for the past several years utilized corn clubs to demonstrate methods of corn production. He inspects the club members' plots, attends their club meetings, prepares subject-matter material for corn-club work, and arranges with local club leaders for neighboring farmers to attend the club tours taken by corn club members. In his annual report he says, "Boys' and girls' club work is playing an important part in the crop-improvement work. These acre plots of improved seed often outyield Dad's so far that the next year he will try the improved seed."

From these few illustrations it may be seen that through boys' and girls' club work "demonstrations" which "convince" may be made.

INDIANA POTATO BOYS HIT HIGH AVERAGE

By F. C. Gaylord, Associate Horticulturist,
Agricultural Extension Service, Indiana

During 1923, 1,118 Indiana potato-club boys averaged 150 bushels per acre, 75 per cent more than the State's average yield, and again demonstrated to their fathers that seed and soil spell "spud success." These boys grew 285 acres of potatoes, yielding 42,870 bushels. The crop was sold for \$42,497. After paying all expenses, they still had \$17,391 profit. Of the 1100 boys carrying the project, not one obtained less than 100 bushels per acre, while the highest yield recorded was 432 bushels per acre.

To get these large yields and lay the foundation for successful potato-club work, experiments and demonstrations were begun five years ago to determine the limiting factors in potato production in the State. At first, carefully selected fields were established, where certified seed, standard varieties, correct fertilizers, disease and insect control, and

good culture were linked together and results watched. It soon became apparent that the use of certified seed of standard varieties on rich Indiana soil would eliminate most of the causes of poor yields. Dr. Max Gardner, of Purdue Experiment Station, determined that leaf-roll and mosaic reduced yields in the State from 35 to 65 per cent.

To get the work started, the extension department has cooperated with northern certified-seed growers in locating best sources of certified seed for the farmers and the boys. In 1922, the Wisconsin certified-seed association and the Michigan certified-seed growers each contributed a carload of certified seed for club use in the State. These potatoes were distributed at the rate of 4 bushels apiece to 350 boys in every section of the State. To help with the work, \$500 in potato-club trips and prizes was offered to the boys who made the best records in the growing of potatoes. Each boy treated his potatoes with corrosive sublimate, green sprouted them and planted them on the best soil on the farm. The soil was fertilized by the addition of barnyard or stable manure at the rate of 20 wagonloads to the acre.

In 1922, the Baltimore and Ohio Railroad, whose line traverses 23 counties in Indiana, contributed two carloads of certified seed to 10 boys in each of its 23 counties. Besides this they offered \$500 in cash prizes and scholarships to boys who made the best showing. This work has been continued during 1924, the railroad again giving certified seed to 10 new boys in each county. As a result of this work, profitable methods of potato growing have been spread in 23 counties, where the crop had never before been a success.

In order to get this work started properly, the agricultural agent of the railroad and two specialists from Purdue extension department, with the aid of the local county agents, held meetings in various counties about two months before planting time, at which all the boys in the club were present. At these meetings the boys were given careful instructions on every phase of the project, so that they knew just how to go about it to get big yields. Each club held meetings during the summer and a local tour and potato show. As a result of the careful supervision of the project not a boy obtained less than 29 bushels on a 1/4-acre plot.

A few definite examples from various sections in Indiana will show what these boys were able to do. Take John L. Barton's boys at Columbia City, Ind., - the 12 boys finishing the work grew 2-3/4 acres, from which they harvested 524 bushels of marketable potatoes. These were grown at a cost of \$348.93 and sold for \$562.55, leaving them a money profit of \$213.62.

In central Indiana, farmers are buying many of the potatoes they eat. At Greenfield, Walter Kolb's 7 boys grew 9 acres, from which they harvested 1,403 bushels of salable potatoes, and made a net profit for themselves of \$1,443.79, or a little over \$200 apiece.

H. S. Kolb, of Spencer, had a live bunch of boys, who, by getting into the early-potato game, were able to dispose of their surplus at prices ranging from \$3 to \$5 per bushel. With an average yield of over 100 bushels, they were well able to weather high prices of seed and still make a net profit of \$576.06 from 3 1/2 acres.

Such results as these were obtained in greater or less degree by every club doing the work. This is not possible, however, if the same old way of growing potatoes is followed, for all of these boys were up and on their toes ready to do the things which would make for profitable yields. Nor should this be construed that they did things that the average commercial grower could not do profitably. They grew varieties which were suitable to Corn-Belt conditions, namely, the Early Ohio and Irish Cobbler for the early crop and the Rural New Yorker for the late plantings. In every case the seed stock was the best obtainable, coming from high-yielding certified stock obtained through the direction of Purdue University. The seed was treated for externally-borne diseases, such as scab, black scurf, and blackleg, with a corrosive sublimate solution for an hour and a half. Following this, it was green sprouted. Later, these were cut and planted immediately in well prepared soil previously fertilized with a heavy application of rotted manure and supplemented with a few hundred pounds of high-grade fertilizer per acre. The fertilizer contained plenty of acid phosphate and potash. The potatoes were not forgotten as soon as planted and trust placed in providence, but were cultivated and sprayed with Bordeaux as needed throughout the growing season.

During the summer, I visited many fields and noted the interest of the club boys' fathers. I remember we asked a boy if he treated his potatoes, whereupon he replied, "No I didn't, Dad wouldn't let me," so we took the boy's "Dad" out into the field and showed him the abundance of scab and told him how he could have controlled it. Before we left, I asked the boy if he intended to treat next year. "You bet I do," he quickly replied. "Dad sees the value of it too now and he'll not say anything another year." In many places the fathers were interested in seeing how the boys' patches were turning out, and many times during the summer I heard men confess that their sons had the edge on them in growing potatoes.

In the club patches, just as in the demonstration fields, where we have, during the past three years, doubled the potato yields, success depended upon the use of good seed and good soil, along with other improved cultural methods. Indiana farmers and club boys have found that carefully selected certified seed solves the disease problem. All these factors working together have taken a large percentage of the chance out of potato growing and made it one of the profitable farm enterprises of the Corn Belt.

MICHIGAN CLUB BOYS LEARN TO GROW DISEASE-FREE POTATOES

By H. C. Moore,
Chief, Potato Certification Service, Michigan.

In 1923, there were, in Michigan, 54 potato clubs, comprising 423 members, with an aggregate acreage of 154 acres. Twenty-two counties were included in this potato-club project. The total value of the crop grown by club members was \$15,677.58. The average yield per acre for club members was 142 bushels, while the average yield for the State was 110 bushels.

During the past four or five years, potato-club work has been a very effective means of bettering potato-production methods. Probably one of the most important factors that makes for better-quality potatoes is the use of high-grade seed; that is, seed that is practically free from disease, and that comes from vigorous high-yielding strains. For the past few years, Michigan has produced annually about 300,000 bushels of certified seed. Practically 75 per cent of the certified seed crop, however, that is placed on the market is sold outside of Michigan. In nearly all cases club members have planted Michigan certified seed in their potato projects and have thus demonstrated in many sections of the State the value of using certified seed as against ordinary seed potatoes. Several instances can be cited where growers in many communities are now making a general practice of planting certified seed due to the results of demonstrations carried on by club members.

This year, 24 club boys applied for the inspection of their seed-potato plots. The total acreage thus listed by club members was 24. Only those boys who are old enough to carry on the certified-seed project successfully are considered in this work. It is believed that boys much under 12 or 14 years of age can not handle the certified-seed project. The inspection fee for commercial growers is \$5 per acre for 5 acres or less and 75 cents per acre for each additional acre over 5. In addition to this fee, growers pay a certification fee of 2 cents per bushel for all stock certified. The certification fee is not paid until the potatoes are harvested and stored. Since most of the certified-seed work carried on by club members is done through organized clubs, the inspection fee is based on the total acreage listed by the club and not the acreage listed by individual members. The boys pay the regular certification fee of 2 cents per bushel for all potatoes certified.

Several boys have done remarkably well in the growing of certified seed. Last year, Edward Domke, Ocqueoc, Presque Isle County, a boy 16 years of age, grew 9/10 acre of certified Russet Rurals. His total yield was 308 bushels. Of this amount he sold 240 bushels as certified seed at \$1 per bushel. His cost of production per acre was \$138.75; and, according to his report, his net profit on the potatoes was \$116.04. This boy won the sweepstakes prize with his 32-tuber exhibit of certified seed in the Top O' Michigan Show held at Gaylord in November, 1923.

Another boy, Joseph Drake, of Sagola, (a small town in the Upper Peninsula) has been growing certified seed for three years. Last year he had a plot of approximately 1/2 acre. From his plot he realized \$178. The total cost of growing the potatoes was \$73.62, which left him a profit of \$104.38. Joseph concludes his report with the statement, "I have learned that it pays to grow certified potatoes."

Last February, at the potato show held at the Michigan Agricultural College during Farmers' Week, this club member won the State potato-club championship and was awarded a loving cup.

In order to increase the use of Michigan certified seed within the State and thus help to better the market quality of table-stock potatoes, certified-seed growers have each year donated several hundred bushels of potatoes for demonstration purposes. This demonstration and test work has been handled through the potato office of the agricultural college. Approximately 500 bushels of potatoes were thus placed with club members in various sections of the State last year. The object was for each club member to grow 1 bushel or 100 pounds of certified seed in comparison with uncertified or ordinary seed. Approximately 60 records were obtained on these demonstrations from club members, and the results showed that the average increase yield per acre from the certified seed over ordinary stock was 45 bushels. Practically all members indicated that the market quality of the crop grown from certified seed was far superior to that grown from common potatoes. The average increase yield per acre from the use of Michigan certified seed in comparison with uncertified seed as obtained last year from over 300 tests in Michigan and other States was 42 bushels. Demonstrations of this kind have aided materially in extending the use of good seed. This work will be continued the coming year.

In several sections of the State, chambers of commerce and other commercial organizations of cities have backed potato-club projects to the extent of furnishing certified seed for club members. Last spring, the Kiwanis Club of Pontiac, Oakland County, bought 100 bushels of the best certified White Rural seed obtainable and gave them to 100 club boys of that county. Furthermore, funds were raised in the county through the Farm Bureau organization and commercial clubs to provide for the expense and salary of one of the regular seed-potato inspectors for two weeks' work with the Oakland County boys. The inspector visited practically all the plots and showed the boys the best methods of spraying, roguing, and hill selecting. This club is planning to have a potato exhibit at Pontiac on November 14. It is likely that several members of the club who are successful this year will plant potatoes next year for inspection and certification, and will thus make available to Oakland County farmers a nearby source of high-grade White Rural seed, a variety which is particularly adapted to that section of the State and for which there is a big demand.

CLUB WORK AS A MEANS OF IMPROVING METHODS OF POTATO GROWING IN NEW HAMPSHIRE

By H. B. Stevens, Executive Secretary,
Agricultural Extension Service, New Hampshire

During the past few years, seed-potato improvement has been a main part of the potato project of the New Hampshire boys' and girls' clubs. Most of the emphasis has been laid upon certified seed. In 1922, more than half the club members in the project used certified seed, and many of them made comparisons with common stock. The results showed clearly the superiority of the certified seed, both in yield and exhibit quality. Most common stock in the State has suffered from mosaic and leaf-roll. Over a period of three years, hundreds of demonstrations have given an average yield of 65 bushels per acre more from certified healthy seed than from common stock.

Following the demonstrations of 1922, the potato project was revised to cover five years' work. During the first year, the club member must plant all or part certified seed, the purchase of which is supervised by the extension agent. It was found that, in the past, many had not known when their seed was certified and had sometimes bought stock under the supposition that it had been certified when it actually had not been certified. To avoid this difficulty the extension service recommended at least two reliable sources of certified seed. Arrangements were made by the club leaders to purchase seed for all potato-club members and to see that it was delivered. The growers made a special price to the boys and girls, and the seed cost no more than if it had been bought locally.

In the second year's work in the project, the club member must plant all certified seed unless his first year's demonstration was a failure, in which case he must repeat it. It is also recommended that he treat seed for scab and Rhizoctonia so that he will become familiar with the process.

The third year, the club member must use seed from two sources and make a record of the most profitable. During the remaining years he uses the seed from the most profitable source.

Results from the insistence on disease-free seed have been most satisfactory. Last year, reports from 137 club members showed an average yield of 178 bushels per acre. State Club Leader C. B. Wadleigh is authority for the following statement:

"The president of one county farm bureau told me at the club round-up and exhibit in his county that he was especially pleased to see that the club agent had reached a certain community and brought some boys into the potato club. These boys had purchased some certified seed contrary to the best judgment of their fathers who thought their own potatoes were best. The result was that the boys' potatoes did better than their fathers',

and now the fathers want to know where they can get some of the certified seed. More than that, these men who formerly detested having any outsider tell them anything about farming are now gladly welcoming advice from anyone who can show their boys how to grow crops better than they themselves can."

One of the boys has become interested in the production of certified seed, and is now working his way through college via the potato patch. Without adequate machinery, he planted and tended carefully 3 acres of potatoes and earned the distinction of being one of three in the southern counties of the State to win certification.

Requirements regarding the size of plat in the project are as follows: 5 square rods for those under 12 years of age; 10 square rods for those 12 or 13 years of age; 20 square rods for those 14, 15 and 16 years of age; and 40 square rods for those over 16 years of age.

In spite of the youth of the club members, it has been felt that the corrosive-sublimate method of treatment of seed potatoes could be safely recommended if proper precautions were used. It is advised that the seed be soaked for 1 1/2 hours in a 1-1000 solution of corrosive sublimate.

WISCONSIN BOYS AND GIRLS STUDY POTATO-DISEASE CONTROL

By A. J. Brann,
County Agent, Oneida County, Wis.

There are a number of outstanding benefits resulting from boys' and girls' potato-club work; but, in this region, the effect of the knowledge of potato diseases gained by these boys and girls is, in my opinion, the greatest benefit of all. Children will pass on the knowledge they have gained of potato diseases more quickly, and, as a rule, more accurately than the average older person. Study of activities of the Clover Leaf Triumph Club, one of the boys' and girls' potato clubs, organized by the writer in Oneida County, Wisc. under the 4-H Club plan, reveals the value of club work in spreading knowledge of potato diseases.

Five boys and five girls from the school district, under the direct leadership of George Burkhardt, an experienced potato farmer, each raised 1/2 acre of Triumph potatoes. The first essential called to the children's attention was the necessity of obtaining only the very best certified Triumph seed potatoes for their plots. As one of the first lessons, a study was made of the requirements of certified seed, the diseases which are considered in Triumph inspection, and a short history of certification work. The children were made to realize that it would be necessary for them to learn to know and recognize the diseases.

In the second lesson, they were taught how to disinfect seed potatoes. All of the seed was treated in one vat, at the home of the farmer

leader. The children were made to do the work themselves, so that each would learn how to treat seed potatoes with corrosive sublimate. At this time, their attention was called to Rhizoctonia, scab, and blackleg, diseased tubers and pictures being used to impress upon their minds the necessity of learning to recognize these diseases and to combat them.

At the next lesson, when the potatoes were cut and planted, the children learned to discard all potatoes showing signs of disease, so as to take every precaution in preventing disease in their fields. They were also taught how to cut potatoes, and how to plant, in order to have a uniform stand.

In this particular club, one of the plots was used as an experimental plot. In this plot, another strain of Triumphs, which was known to contain a high percentage of mosaic, was planted. Records of performance of fertilized and unfertilized rows were kept, to show the results of treating. The plot was made a small experimental farm, where the club members could study potato diseases and fertilizer requirements. Incidentally, it was found that every farmer in the community took an interest in the plot, many feeling as did one who said: "I have learned more about potatoes this year than I ever have in my life."

As soon as mosaic showed up in this plot, the children were called together and shown how to treat and detect this disease in the field. Then they were instructed to go back into their own plots and pull every plant showing the symptoms of mosaic. The neighbors saw the children destroying the mosaic plants, and their curiosity led them to ask many questions until they found out what was being done and why. One boy found that his father's Triumphs, which were only a few rods away, contained practically 100 per cent mosaic, and he immediately called attention to the fact.

During the next lesson, the club members visited this boy's home, and by comparing his plot, where the plants were healthy, with that of his father, the great difference between potatoes grown from healthy and mosaic-infected seed was shown. This plot was also visited by many farmers, who no doubt learned something of the characteristics of and damage done by the mosaic disease. A complete study of all potato diseases prevalent was made in the club plots and in the experimental plot. As a result of this, the boys and girls not only became familiar with the various diseases, but learned to apply control methods. The farmers of the community, through direct or indirect contact with the club work, became interested in a study of potato diseases from the standpoint of control. The knowledge that these young folks gained will no doubt be passed on to many farmers of the county. One can hardly estimate the far-reaching results of this work on the control of potato diseases.

PLANT PATHOLOGY DRAMATIZED IN PENNSYLVANIA

It has just been my privilege to read a manuscript entitled "How Pennsylvania Potatoes Got Their Eyes Open (A playlet on successful potato growing)." This was written by W. R. Gordon, Extension Sociologist, with the assistance of Brandon Wright, Assistant State Club Leader, both of Pennsylvania. It is intended for the use of the membership of Pennsylvania potato clubs and should be very helpful as a means of emphasizing in the minds of parents and children, the importance of applying appropriate disease-control measures.

Thinking that the extension pathologists might be interested in knowing how the play is conducted, I am giving the cast of characters, costumes; stage setting, and properties:

Cast of Characters

Chairman: A boy about 15 to 17 years of age. An alert, wide-awake little chap who can talk easily and distinctly.

Poor Seed: A little undersized fellow, but one with lots of snap to him; a mischievous little tike.

Good Seed: A clean, healthy, bright-faced boy; one who looks smart. He should have his hair neatly slicked back and in every way give the impression of good health.

Poor Methods: A careless, slouchy, slovenly fellow of medium size. His hair is unkempt, his face and hands are soiled, and in action he gives the impression of being a surly, worthless good-for-nothing.

Good Methods: Might be said to be just the opposite to Poor Methods. He is more like Good Seed in appearance; a clean, healthy, well-set-up boy of about 16.

Graded Stock: Similar to the type of boy used for Good Methods and Good Seed.

All need to be trained to talk easily and distinctly, and each should try to represent the character of the part he is playing.

Costumes

Chairman: His clothes are what he would wear on any general occasion.

Poor Seed: Costume is made of burlap over a framemade of chick wire. This frame is of the shape of a potato with holes cut for the legs to extend through and holes at the top for the arms. A

draw string in the top will serve to gather in the costume at the neck. The general shape of the costume should be oval although mis-shapen to represent a poor specimen. With some paint, eyes and a scabby, rough skin may be represented.

Good Seed: Similar in construction to the above but more rounded, smoother, and with no blemishes.

Poor Methods: Old torn hat, ragged shirt or jumper, soiled and badly worn overalls or trousers, and old shoes or boots.

Good Methods: While not dressed up, he looks to be a man who gives attention to his appearance. His shirt, though dark, is not so soiled and is carefully mended; his overalls, while not new, are not so unsightly as those of Poor Methods; and shoes and hat are not so shabby.

Graded Stock: Represents a sack of potatoes with a large "keystone" design on the front. The letters P.P.P. appear in the design. Suspended from his neck is a large "keystone" medal about 6 inches high, with the number, "400" in the design. This medal represents membership in the 400-Bushel Potato Club. The medal may be cut from wood or beaver board.

Stage Setting

This is very simple. A room-shaped set with a door at center back. This door, if necessary, can be in either side of the stage. But some sort of screen or concealment is necessary. Characters should not appear before the audience until their turn comes in the play. Of course any attention to stage setting will enhance the performance that much.

Properties

To the left of the stage should stand an easel, such as was used years ago to hold enlarged pictures. On this are large cards about 11 x 14 inches or larger. Each card bears the name of the character who last entered. For instance, there will be a blank card out at the beginning of the performance. When the play begins, that is, when the Chairman finishes his talk, he steps over to the easel and takes away the first card. The second is disclosed and bears the words "Poor Seed."

When Good Seed enters a card with his name appears as the Chairman removes the second card, and so on through the performance.

If possible, have wire hooks on the top of the cards, and as they are removed from the easel hang them on a wire to one side of the stage and in full view of the audience. This is a simple device and will keep the essential points before the audience. At the close of the play all the cards will appear in their order along the wire.

Make painting on the cards large and bold so it can be read at a distance.

Last week, while attending the boys' and girls' assembly at Columbus, Ohio, I had an opportunity to see the ingenuity displayed on "stunt night" by the 600 young folks present. Boys between the ages of 12 and 19 frequently make good actors. Moreover, their parents are always interested in the preliminary rehearsals and final show. It is my belief that the Pennsylvania club leaders have hit upon a most effective means of extending information on potato diseases. Such plays, if written with the assistance of subject-matter specialists to insure accuracy of pathological facts involved, have great possibilities. F.C.M.

DIRECTORY OF EXTENSION PLANT PATHOLOGISTS

At the present time, 19 States are maintaining Smith-Lever projects in plant pathology. Some of these States employ one man, others more than one, for full time work as extension pathologists; some employ one or more men on a part time basis for this work, the remainder of their time being given to college teaching, research work, or perhaps extension work in entomology.

The States which have such work under way, as well as names and addresses of men who are handling the extension work in plant pathology, are given below. - F.C.M.

<u>State</u>	<u>Name</u>	<u>Address</u>
Alabama	L. E. Miles	Extension Service, Alabama Polytechnic Institute, Auburn, Ala.
Delaware	J. F. Adams T. F. Manns	Extension Service, University of Delaware, Newark, Del.
Florida	John R. Springer E. F. DeBusk	Extension Service, Experiment Station Building, Gainesville, Fla.
Indiana	Charles Gregory A. A. Hanson	Extension Service, Purdue University, Lafayette, Ind.
Iowa	Donald Porter	Extension Service, Iowa State College of Agriculture and Mechanic Arts, Ames, Iowa.

<u>State</u>	<u>Name</u>	<u>Address</u>
Kansas	E. A. Stokdyk	Extension Service, Kansas State Agricultural College, Manhattan, Kans.
Maryland	C. E. Temple R. A. Jehle	Extension Service, University of Maryland, College Park, Md.
Minnesota	R. C. Rose	Extension Service, Department of Agriculture of the University of Minnesota, University Farm, St. Paul, Minn.
New York	M. F. Barrus C. Chupp E. F. Guba Karl Fernow	Extension Service, New York State College of Agriculture, Ithaca, N. Y.
North Carolina	G. W. Fant	Extension Service, North Carolina State College of Agriculture and Engineering, Raleigh, N. C.
North Dakota	Worth G. Couey	Extension Service, North Dakota Agricultural College, Agricultural College, N. Dak.
Ohio	W. G. Stover	Extension Service, Ohio State University, Columbus, Ohio.
Pennsylvania	E. L. Nixon F. G. Miles R. S. Kirby W. S. Krout	Extension Service, Pennsylvania State College, State College, Pa.
South Carolina	W. D. Moore H. W. Barre H. A. Hunter	Extension Service, Clemson Agricultural College of South Carolina, Clemson College, S. C.
Utah	B. L. Richards	Extension Service, Agricultural College of Utah, Logan, Utah.
Virginia	James Godkin	Extension Service, Virginia Polytechnic Institute, Blacksburg, Va.

<u>State</u>	<u>Name</u>	<u>Address</u>
Washington	G. L. Zundel	Extension Service, State College of Agriculture, Pullman, Wash.
West Virginia	E. C. Sherwood	Extension Service, College of Agriculture, West Virginia University, Morgantown, W. Va.
Wisconsin	R. E. Vaughan J. W. Brann	Extension Service, College of Agriculture, University of Wisconsin, Madison, Wisc.

ANNOUNCEMENTS

EXTENSION PATHOLOGISTS TO MEET IN DECEMBER

The afternoon of Tuesday, December 30, has been set apart for our third annual conference on extension work in plant pathology. At this time, the extension pathologists and others attending the winter meeting of the American Phytopathological Society, in Washington, will have an opportunity to meet and exchange views concerning ways of bringing plant-disease control measures into more common use.

Coming as it does in midwinter, before many have completed a program for the next season, this meeting should be most profitable. It is perhaps the best chance of the year to consider plans for 1925 in the light of past experience of workers in other States.

Although this will be an informal round-table conference on extension methods, the committee in charge of the program has thought it best to announce a subject which would be of general interest to men in different parts of the country. Since practically all States are concerned with extending the practice of seed disinfection in the case of one or more crops, this phase of the work has been selected as a framework on which to build the discussions.

Of course, discussions at this meeting will not be limited to the subject of seed treatment. In case you have some matter you will wish to bring up for discussion at this time, please communicate with Dr. R. J. Haskell, Secretary-Treasurer, American Phytopathological Society, Bureau of Plant Industry, Washington, D. C., so that arrangements can be made with the chairman to make the best use of the time available.-F.C.M.

EXTENSION WORK IN PLANT PATHOLOGY IN 1923

Department Circular 329, "Extension Work in Plant Pathology, 1923," by F. C. Meier, was recently received from the printer. This circular is not intended to be a complete report on the year's work. Instead, the writer has simply made an attempt to call attention to various types of work, which were conducted by extension plant pathologists in 1923.-F.C.M.

NEW POTATO BULLETIN WILL SOON BE OUT

Farmers' Bulletin 1436 "Why Potatoes Run Out," by Dr. E. S. Schultz, Pathologist, Bureau of Plant Industry, will soon be ready for distribution. This bulletin, dealing as it does with the symptoms, causes, and control of the virus diseases of potato, should be of interest to every potato grower.

Mosaic, leaf-roll, spindle-tuber, streak, curly-dwarf and combinations of these diseases are discussed in a popular way. Such matters as tuber selection in the bin, the possibility of immune varieties, the effect of roguing seed fields, spraying, and the use of isolated seed fields or plats are touched on.

Seed-potato producers will find this bulletin of particular interest, because of the information given on fundamentals of seed-potato improvement. In seed-potato consuming territory, an understanding of the matters contained should assist potato growers to judge the relative merits of seed stocks from various sources.

MORE ABOUT SEED TREATMENT

Since sending the October number to the mimeographing section, reports on seed-disinfection activities have continued to come in. Lack of space prevents our using these this month. We are glad indeed to receive this material, however, and it will be included in Volume 2, No. 12.-F.C.M.

News notes, extension articles, or suggestions with regard to subjects that might be profitably discussed in this news sheet should be addressed to:

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Extension Plant Pathologist,
United States Department of Agriculture,
Washington, D. C.